REMARKS

Claims 1 to 18 were pending in the present application when last examined. Applicant has amended claims 1, 4 to 6, 8 to 15, 17, and 18, and canceled claims 7 and 16. Claims 1 to 6, 8 to 15, 17, and 18 remain pending in the present application.

Claim Objections

The Examiner objected to method claim 18 for depending from apparatus claim 11. Applicant has amended method claim 18 to depend from method claim 13.

§ 102 Rejections

The Examiner rejected claims 1, 2, 6, 7, 12 to 14, and 16 to 18 under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent Application Publication No. 2002/0141011 ("Green et al.").

Claims 1, 2, 6, 7, and 12

To clarify the claimed invention, Applicant has amended claim 1 to recite the common lenses as collimating lenses and to include the limitations of claim 7. Amended claim 1 now recites:

> 1. A free-space parallel optical interconnect, comprising:
>
> a first module, comprising:
>
> a first die comprising an array of light sources, each light source emitting light; and
>
> a first common collimating lens for directing the light from each light source to a second module; and
>
> the second module, comprising:
>
> a second die comprising an array of detectors; and
>
> a second common collimating lens for directing the light from the light sources to corresponding detectors in the array of detectors.

Amended claim 1 (emphasis added).

Amended claim 1 recites a first common collimating lens that directs light from light sources in a first module toward a second module, and a second common collimating lens that directs the light to corresponding detectors in the second module. In essence, amended claim 1

recites the first module that sends multiple light signals in parallel to the second module using the light sources, the detectors, and the common lenses.

Green et al. discloses a fixed node 19 having a telecentric lens 48 that spread the light from an emitter array 47 to different paths. The different paths form a cone-shaped field of view so fixed node 19 can communicate with a device node 81 located anywhere inside the field of view. Green et al. discloses that device node 81 has a downlink detection lens 105 that focuses the light from fixed node 19 to one respective photodiode in device node 81.

> The detector array 91 is positioned in the back focal plane of a respective lens 105, hereinafter called the downlink detection lens, so that the downlink detection lens 105 directs light from directions within its field of view to respective photodiodes of the detector array 91. As those skilled in the art will appreciate, it is not necessary for the principal rays passing through the downlink detection lens 105 to be incident perpendicular to the detector array 91. The downlink detection lens 105 is therefore designed simply to collect as much light from the fixed node 19 as possible and to direct the collected light to a respective photodiode. In this embodiment, the downlink detection lens 105 has a collection aperture which is twice the size of the collection aperture of the telecentric lens 100 for the modulator array 89.

Green et al., paragraph [0046] (emphasis added). As illustrated in Fig. 9 of Green et al., fixed node 19_1 has one optical data link 29-1 to device node 81. In essence, device node 81 receives has one optical data link from fixed node 91 whereas amended claim 1 recites that the second node receives multiple optical data links in parallel from the first node. Accordingly, amended claim 1 is patentable over Green et al.

Claims 2, 6, and 12 depend from amended claim 1 and are patentable for at least the same reasons as amended claim 1.

Applicant has canceled claim 7, thereby rendering its rejection moot.

Claims 13, 14, and 16 to 18

Amended claim 13 is a method claim that substantially parallels amended apparatus claim 1. Thus, amended claim 13 is patentable for at least the same reasons as amended claim 1.

Claims 14 and 16 to 18 depend from amended claim 13 and are patentable for at least the same reasons as amended claim 13.

§ 103 Rejections

Claims 3, 4, 9, 10, and 15

The Examiner rejected claims 3, 4, 9, 10, and 15 under 35 U.S.C. § 103(a) as being unpatentable over Green et al. in view of U.S. Patent Application Publication No. 2004/0033078 ("Kube et al.").

Claims 3, 4, 9, and 10 depend from amended claim 1 and are patentable for at least the same reasons as amended claim 1. In addition, claims 4 and 10 are further patentable over Green et al. and Kube et al. for the following reasons.

Amended claim 4 recites that the first die includes an array of light sources and an array of detectors. The Examiner cited Kube et al. for disclosing such a die. However, Kube et al. only discloses that laser diodes 180 and detectors 182 are on the same circuit board 174 instead of being on the same die. Accordingly, amended claim 4 is further patentable over Green et al. and Kube et al.

Amended claim 10 recites that the second die includes an array of detectors and another array of light sources that share a second common collimating lens. As discussed above, Kube et al. only discloses that laser diodes 180 and detectors 182 are on the same circuit board 174 instead of being on the same die. Accordingly, amended claim 10 is further patentable over Green et al. and Kube et al.

Claim 15 depends from amended claim 13 and is patentable for at least the same reasons as amended claim 13.

Claims 5 and 11

The Examiner rejected claims 5 and 11 under 35 U.S.C. § 103(a) as being unpatentable over Green et al. in view of U.S. Patent No. 6,522,437 ("Presley et al.").

Claims 5 and 11 depend from amended claim 1 and are patentable for at least the same reasons as amended claim 1.

Claim 8

The Examiner rejected claim 8 under 35 U.S.C. § 103(a) as being unpatentable over Green et al. in view of U.S. Patent Application Publication No. 2002/0141011 ("Pavelchek").

Claim 8 depends from amended claim 1 and is patentable for at least the same reasons as amended claim 1.

Summary

In summary, claims 1 to 18 were pending in the above-identified application. Applicant has amended claims 1, 4 to 6, 8 to 15, 17, and 18, and canceled claims 7 and 16. For the above reasons, Applicant respectfully requests the Examiner to withdraw the claim objection and rejections and allow claims 1 to 6, 8 to 15, 17, and 18. Should the Examiner have any questions, please call the undersigned at (408) 382-0480x206.

Respectfully submitted,

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